

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of)
)
CITIZENS FOR A BETTER ENVIRONMENT,)
SAVE SAN FRANCISCO BAY ASSOCIATION,)
AND SANTA CLARA VALLEY AUDUBON)
SOCIETY)
)
For Review of Waste Discharge)
Requirements Order No. 90-094 of the)
California Regional Water Quality)
Control Board, San Francisco Bay)
Region. Our File No. A-695.)
)

ORDER NO. WQ 91-03

BY THE BOARD:

On July 23, 1990, the State Water Resources Control Board (State Board) received a petition from Citizens for a Better Environment, Save San Francisco Bay Association and Santa Clara Valley Audubon Society (petitioners). The petition sought review of waste discharge requirements adopted by the Regional Water Quality Control Board, San Francisco Bay Region (Regional Board) in Order No. 90-094, regulating discharges of storm water¹ from municipal separate storm sewers throughout the Santa Clara Valley. The storm drains discharge to creeks and streams which are tributary to South San Francisco Bay (South Bay).

The issues raised in the petition are complex, and concern two major federal regulatory programs--storm water

¹ There are variant spellings of "storm water" and "stormwater" found in the relevant statutes, regulations, and case law. We will adopt "storm water", but quoted materials using "stormwater" will also appear in this Order.

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regulation and regulation of water bodies which do not attain water quality standards. Given the complexity of these issues, we will review the background and requirements of these programs, and the application of these programs to municipal storm water discharges throughout the Santa Clara Valley.

We note that the Regional Water Quality Control Board, Los Angeles Region, issued a separate permit regulating storm water discharges from municipalities in the Los Angeles area, which we have also reviewed. Order No. WQ 91-04, which is also being issued today, explores many of the same issues as this Order. In preparing this Order, we have reviewed the documents submitted by persons interested in the Los Angeles petition.

I. BACKGROUND

A. The Need for a Storm Water Regulatory Program

Through the natural hydrologic cycle, precipitation condenses from clouds and falls on land surfaces where it disperses in several ways. Water may be temporarily captured in the soil so plants may use and then transpire it. Rain or snowfall may also quickly evaporate or may infiltrate the surface soil to replenish ground water. Rain water and snow melt flow over land areas and replenish creeks, streams, rivers and lakes. But this runoff accumulates a variety of pollutants including minerals, nutrients, bacteria, suspended material, heavy metals and debris as it flows through the natural environment. Surface runoff also becomes degraded as plants and animals use it. Though gravitational flow eventually returns water to the ocean

and evaporation again transforms this water on a broad scale, the accumulation of pollutants in runoff water may substantially diminish water quality in a microcosm and thereby alter the balance of important natural cycles.

In addition to the pollutants which accumulate in storm water runoff, pollutants also enter surface waters during dry weather through storm drain systems. Pollutants may be transported by wet weather flows or even by direct discharge to the storm drains, and later released to surface waters, even during times when there is no rainfall or snow melt. Examples of these dry-weather pollutant discharges include water line flushing, landscape irrigation, diverted stream flows, rising ground waters, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, and individual residential car washing.

While there is some confusion in the terminology which is used in the regulatory documents, the former type of discharge, which occurs as a direct result of storm events, is usually referred to as "storm water discharge," while the latter form of dry weather discharge is referred to as "urban runoff." Together, we shall most commonly refer to the phenomenon as "storm water discharge."² Storm water discharges may be significant contributors of pollutants to surface waters.

² In regulations, the Environmental Protection Agency (EPA) adopted recently, "storm water" is defined as "storm water runoff, snow melt runoff, and surface runoff and drainage". 40 CFR Section 122.26(a)(13). While "storm water" thus includes urban runoff, it must be noted that discharges which are not composed of "storm water" (such as illicit discharges to the municipal system from industrial facilities) are prohibited by the regulations. Thus, many forms of urban runoff may in fact be prohibited.

B. Municipal Separate Storm Sewer Systems

Municipal separate storm sewer systems essentially act as conduits for pollutants from diffuse sources throughout the urban environment and from discrete point sources associated with industrial activities. The systems to which we shall refer in this Order are owned or operated by public agencies, are designed or used for collecting or conveying storm water, and are not a combined sewer.³ While separate storm sewer systems are legally characterized as point sources within the meaning of the Clean Water Act, as discussed hereinafter, the waste which they discharge mostly originates as nonpoint, diffuse waste flows from urban development and activities (including residences, streets and commercial establishments). Municipal separate storm sewer systems are somewhat analogous to municipal sanitary sewer systems where those systems convey industrial wastewaters along with domestic sewage. The sanitary sewers simply transport industrial wastes to the treatment facility and then to the receiving water. However, storm water discharges, and the pollutants therein, are also highly variable, being affected greatly by such factors as storm events, land uses and receiving water conditions, and thus present even greater challenges for their regulation and control.

³ 40 CFR Section 122.26(b)(8).

C. Early Attempts to Regulate Storm Water Discharges

In 1972, Congress adopted the Federal Water Pollution Control Act Amendments of 1972,⁴ which created a comprehensive program to protect surface waters. The Clean Water Act emphasizes the control, treatment and elimination of all pollutant sources in order to protect vital uses of the nation's waters. Because scant information about runoff existed in 1972, the Clean Water Act mandated further assessment of runoff, its constituent pollutants, the consequent water quality effects, and applicable control measures. Section 105 of the Act specified that the development and application of "waste management methods" to prevent, reduce, or eliminate pollutants from storm water runoff would be a national priority.⁵

⁴ Public Law 92-500 (86 Stat. 816, enacted October 18, 1972); 33 USC Section 1151 et seq. Although characterized in the official title as "amendments", the 1972 FWPCA essentially rewrote the pre-1972 Federal Water Pollution Control Act. The 1972 amendments are commonly referred to as the Clean Water Act, and we will follow that practice. We shall use the enumeration of Clean Water Act sections, rather than the comparable United States Code designations.

⁵ The pertinent portions of Section 105 state:

"(a) The Administrator [of the Environmental Protection Agency] is authorized to conduct in the Environmental Protection Agency and to make grants to any state, municipality, or intermunicipal or interstate agency for the purpose of assisting in the development of (1) any project which will demonstrate a new or improved method of preventing, reducing, and eliminating the discharge into any waters of pollutants from sewers which carry storm water or both storm water and pollutants...."

* * *

(d) In carrying out the provisions of this section, the Administrator shall conduct, on a priority basis, an accelerated effort to develop, refine, and achieve practical application of:

(1) waste management methods applicable to point and nonpoint sources of pollutants to eliminate the discharge of pollutants, including, but not limited to, elimination of runoff of pollutants and the effects of pollutants from in-place or accumulated sources...."

The Clean Water Act also included a major new regulatory program intended to implement the Act's stated goal of eliminating the discharge of pollutants into surface waters by 1985. Section 301 of the Act prohibits the discharge of any pollutant to navigable waters from a "point source"⁶ unless the discharge is authorized by a national pollutant discharge elimination system (NPDES) permit. The provisions for adoption of NPDES permits are contained in Section 402 of the Clean Water Act.⁷

In 1973, EPA issued regulations which exempted certain categories of point sources of pollution from the permit requirements of Section 402.⁸ One of the categories of discharges exempted by the 1973 regulations was separate storm sewers containing only storm runoff uncontaminated by any industrial or commercial activity. In Natural Resources Defense Council v. Costle (D.C.Cir. 1977) 568 F.2d 1369, the court held

⁶ A "point source" is defined in Section 502(14) as "any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." It is important to note that, while the discharge of storm water to surface waters is a discharge from a point source from a legal standpoint, these discharges have often been referred to in official documents as "nonpoint" discharges, in recognition of the manner in which they travel over land to the point of discharge.

⁷ Section 402 authorizes states to administer the NPDES program within their boundaries. EPA has approved California's NPDES program. Pursuant to the provisions of the Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.), NPDES permits are issued by the Regional Water Quality Control Boards in California.

⁸ See 38 Fed. Reg. 18000 (1973).

that the Clean Water Act required NPDES permits for all discharges of pollutants from point sources, specifically including the discharge of storm water. In that opinion, the court encouraged the use of general permits and "alternative" permit conditions for storm water permits. It was not until 1990, after several aborted attempts, that EPA finally issued regulations for the issuance of storm water permits.⁹

D. Basin Planning Activities by the Regional Board

In 1975, the Regional Board adopted its Water Quality Control Plan for the San Francisco Bay Region (1975 Basin Plan).¹⁰ The 1975 Basin Plan broadly characterized suspected constituents in runoff and roughly estimated pollutant mass loadings from runoff throughout the region. These estimates were derived from several earlier, but limited runoff emission studies. In the 1975 Basin Plan, the Regional Board acknowledged the necessity to obtain further knowledge about storm water runoff and to undertake regulatory actions. Four fundamental control strategies were described for urban runoff: (1) Prevent contaminants from reaching urban land surfaces; (2) Improve street cleaning and cleansing of other public areas;

⁹ 40 CFR Parts 122, 123, and 124. See 55 Fed. Reg. 47990 (November 16, 1990).

¹⁰ The 1975 Basin Plan was approved by the State Board in Resolution No. 75-28.

(3) Treat runoff prior to discharge to receiving waters; and (4) New controls on land use and development.¹¹

The 1975 Basin Plan concluded that until more definitive research and study about runoff control strategies was conducted, the prudent regulatory path was to adopt and maintain reasonable source control measures and comprehensive monitoring programs. In approving the 1975 Basin Plan, the State Board stipulated that various actions in the Plan, including the urban runoff strategies, constituted recommendations which the State Board, the Regional Board and other agencies should consider further.¹²

The 1975 Basin Plan identified beneficial uses for specified water bodies and listed water quality objectives to protect such uses. Among the water quality objectives listed in the 1975 Basin Plan was a narrative toxicity objective.¹³ Compliance with the narrative toxicity objective was to be determined by bioassays. The Basin Plan further specified "limiting concentrations" for inorganic chemical constituents (primarily heavy metals) in waters used as domestic and municipal supply.¹⁴

The 1975 Basin Plan did not specify numeric water quality objectives for the South Bay. It instead prohibited

¹¹ 1975 Basin Plan, Chapter 5, "Nonpoint Source Measures", pages 5-39 through 5-41.

¹² State Board Resolution No. 75-28.

¹³ The objective requires that all waters be maintained free of toxic substances in toxic amounts. 1975 Basin Plan, page 4-11.

¹⁴ 1975 Basin Plan, at page 4-18.

continued wastewater discharges to the South Bay, with specified exceptions to this prohibition.¹⁵ The Basin Plan also referred to various plans and policies of the State Board, including the "Water Quality Control Policy for the Enclosed Bays and Estuaries of California."¹⁶ However, the 1975 Basin Plan explicitly stated that this policy does not apply to wastes from "land runoff".¹⁷

After approval of the Basin Plan by the State Board, the beneficial uses and water quality objectives contained therein were approved by EPA as water quality standards within the meaning of the Clean Water Act. Thus, in 1976 there were no numeric water quality objectives for the South Bay, and there was a general prohibition against discharges thereto, which did not apply to storm water discharges.

In 1986, the Regional Board made substantial revisions to the Basin Plan.¹⁸ The 1986 Basin Plan included numeric objectives for specific toxic pollutants (primarily heavy metals) in some of the surface waters in the Region. For surface waters

¹⁵ 1975 Basin Plan, pages 5-6 through 5-12 and 5-47.

¹⁶ The "Bays and Estuaries Policy", as this document is commonly known, was adopted on May 16, 1974.

¹⁷ 1975 Basin Plan, "Bays and Estuaries Policy", section at page 4-11. In the Bays and Estuaries Policy, the State Board had prohibited continued wastewater discharges to the South Bay, based on limited assimilative capacity, generally shallow depth and hydrodynamic circumstances restricting free movement and wide dispersion.

¹⁸ The Regional Board amended the Basin Plan in Resolution No. 86-14, on December 17, 1986. This document will be referred to as "1986 Basin Plan". The State Board approved the revisions on May 21, 1987.

downstream from Carquinez Straits, the Regional Board adopted water quality objectives in Table III-2A, which were to be included in NPDES permits.

The 1986 Basin Plan reiterated the necessity of site-specific, numeric water quality objectives for the South Bay, and did not apply the Table III-2A objectives there. The 1986 Basin Plan explained:

"The South Bay below the Dumbarton Bridge is a unique, water quality limited, hydrodynamic and biological environment which merits continued special attention by the Board. Site specific water quality objectives are absolutely necessary in this area for two reasons. First, its unique hydrodynamic environment dramatically affects the environmental fate of pollutants. Second, potentially costly nonpoint source pollution control measures must be implemented to attain any objectives in this area. The costs of those measures must be factored into economic impact considerations by the Board in adopting any objectives for this area. Nowhere else in the Region will nonpoint source economic considerations have such an impact on the attainability of objectives. Therefore, for this area, the objectives contained in Tables III-2A and III-2B will be considered guidance only, and should be used as part of the basis for site specific objectives. Programs described in Chapter IV will be used to develop site specific objectives for it. Ambient conditions shall be maintained until site specific objectives are developed."¹⁹

The 1986 Basin Plan identified existing and potential beneficial uses for the South Bay and its tributary surface waters. Uses for the South Bay include industrial service supply, navigation, body contact and non-contact recreation, commercial and sport fishing, wildlife and rare and endangered species habitat, fish migration and spawning, shellfish

¹⁹ 1986 Basin Plan, page III-5.

harvesting and estuarine habitat.²⁰ For the numerous surface water bodies tributary to the South Bay, the beneficial uses typically include municipal supply, agricultural supply, ground water recharge, body contact and non-contract recreation, cold and warm freshwater habitat, wildlife habitat, and fish migration and spawning.

In order to protect beneficial uses, the 1986 Basin Plan contained a four-part implementation plan. The plan included point source control measures, nonpoint source control measures, estuarine management actions, and continued planning actions. While the plan for point sources included either specific effluent limitations to be included in NPDES permits or alternative limits based on site-specific water quality objectives, the plan for nonpoint sources did not contain such specific controls. It was noted in the 1986 Basin Plan that wastes from diffuse sources such as agricultural operations, onsite treatment and disposal systems, construction activities, urban runoff, spills and dredging had not been thoroughly investigated.²¹

While the 1986 Basin Plan did not call for the immediate regulation of storm water runoff, the Plan did

²⁰ 1986 Basin Plan, Table 2-1.

²¹ As was noted earlier, while storm water runoff is legally a point source and must be regulated as such, many historical documents describe such discharges as nonpoint sources. Regardless of the nomenclature, such documents must be read in context. Where, as here, the Regional Board distinguished between point sources and nonpoint sources including storm water or urban runoff, we must interpret its intent to exclude storm water runoff from the rules for other point sources. In the Basin Plan, it is obvious that the Regional Board considered both storm water and urban runoff as nonpoint sources.

summarize the findings of several local and national studies concerning urban and storm water runoff.²² Collectively, these studies indicated that runoff varies considerably, but likely contributes significant quantities of pollutants, especially heavy metals, to the surface waters. The 1986 Basin Plan instituted actions to identify more thoroughly local runoff problems, to evaluate existing control measures, and to develop specific additional measures. Local governmental agencies and owners or operators of storm drain systems in the South Bay were required to submit detailed information and to identify and implement runoff control measures.

E. Preliminary Control Activities in the Santa Clara Valley Storm Water System

The information required by the 1986 Basin Plan provided some data regarding operation of the municipal separate storm sewer system in the Santa Clara Valley. Throughout the Valley, a relatively flat region spanning approximately 700 square miles between the Santa Cruz Mountains and the Diablo Range, a complex network of storm sewers and natural drainage courses collect and transport intermittent urban runoff and storm waters from urban, industrial, residential and undeveloped areas. The County of Santa Clara, the Santa Clara Valley Water District, and 13 cities²³ own, operate, or maintain the municipal separate

²² 1986 Basin Plan, pages IV-39 through IV-41.

²³ The cities and towns are Campbell, Cupertino, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga and Sunnyvale. They are sometimes referred to in the record as "Santa Clara Valley Nonpoint Source Agencies".

storm sewers within the system. The collected flows are conveyed and discharged into numerous creeks, streams, rivers and other surface water bodies which comprise the Santa Clara hydrologic unit of the San Francisco hydrologic basin, and which are ultimately tributary to the South Bay.²⁴

In response to the 1986 Basin Plan requirements, the local agencies which discharge storm water runoff from their storm drain systems into Santa Clara Valley drainage courses developed an action plan to initiate a storm water runoff control program.²⁵ The program consisted of three principal phases: (1) Dry- and wet-weather investigation and monitoring of pollutants in runoff flows and in receiving waters; (2) Identification and evaluation of alternative pollutant control measures; and (3) Development of an implementation plan. The local agencies and their consultants prepared and submitted reports when they completed each phase of the program. The "Implementation Program", the final phase, was completed in March 1990. This report described numerous individual and jurisdiction-wide runoff pollutant control measures and the institutional arrangement to implement them.

24 The eleven principal drainages or "watersheds" of the Santa Clara Valleys include: Calabazas Creek, Coyote Creek and its tributaries, Guadalupe River and its tributaries, San Tomas Aquinos Creek, Saratoga Creek, Sunnyvale East drainage, Sunnyvale West drainage, Stevens Creek, Permanente Creek, San Francisquito Creek, and Adobe, Matadro, and Barron Creeks.

25 Santa Clara Valley Nonpoint Source Discharge Evaluation Action Plan (July 1987).

F. Water Quality Act of 1987

1. Storm Water Provisions

In 1987, the federal Clean Water Act was amended²⁶ to add provisions specifically requiring a regulatory program for storm water discharges. Section 402 of the Clean Water Act was amended to add subsection 402(p), which establishes NPDES permit application requirements for municipal storm water discharges and for storm water discharges associated with industrial activities.²⁷

Section 402(p)(1) provides that prior to October 1, 1992, NPDES permits shall not be required for discharges composed entirely of storm water. Exceptions to this prohibition include discharges from municipal separate storm sewer systems serving a population of 250,000 or more (Section 402(p)(2)(C)) and where the "stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States". Section 204(p)(2)(E). Regarding municipal discharges, Section 402(p)(3)(B) provides:

"Permits for discharges from municipal storm sewers--(i) may be issued on a system- or jurisdiction-wide basis; (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and

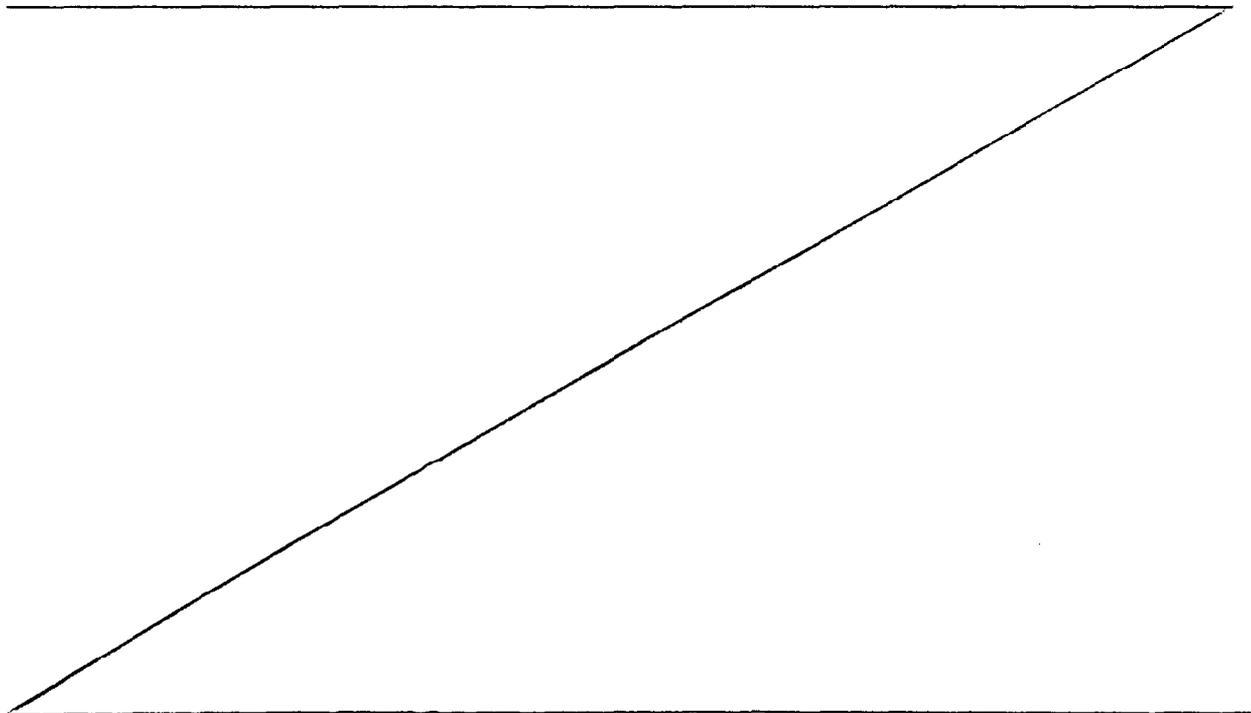
²⁶ The amendments are entitled Water Quality Act of 1987, Public Law 100-4 (February 4, 1987).

²⁷ Section 405(p) of the Water Quality Act of 1987.

engineering methods, and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." (Emphasis added.)

The issues raised in this petition concern the portions of Section 402(p) addressing municipal discharges, especially the meaning of the requirement that municipalities must control and reduce pollutant discharges to the "maximum extent practicable". These issues will be discussed in detail hereafter.

On December 7, 1988, EPA issued draft regulations intended to implement Section 402(p). However, despite the statutory requirement that EPA promulgate regulations by February 4, 1989, the final regulations were not promulgated until November 16, 1990,²⁸ after the Regional Board had issued the permit which we are reviewing.



²⁸ 55 Fed. Reg. 47990.

2. Section 304(1)

The Water Quality Act of 1987 also added Subsection 304(1) to the Clean Water Act.²⁹ Section 304(1) generally requires states to identify those surface waters which are adversely affected by toxic, conventional, and nonconventional pollutants. The surface waters may be included on any of three lists which must be prepared. The list which we shall discuss herein includes waters which are not expected to meet applicable standards, "due entirely or substantially to discharges from

²⁹ Section 308(a) of the Water Quality Act of 1987 added Section 304(1)(1), which states:

"Not later than 2 years after February 4, 1987, each State shall submit to the Administrator for review, approval, and implementation under this subsection--

(A) a list of those waters within the State which after the application of effluent limitations required under section 1311(b)(2) of this title cannot reasonably be anticipated to attain or maintain (i) water quality standards for such waters reviewed, revised, or adopted in accordance with section 1313(c)(2)(b) of the title, due to toxic pollutants, or (ii) that water quality which shall assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water,

(B) a list of all navigable waters in such State for which the State does not expect the applicable standard under section 1313 of this title will be achieved after the requirements of sections 1311(b), 1316, and 1317(b) of this title are met, due entirely or substantially to discharges from point sources of any toxic pollutants listed pursuant to section 1317(a) of this title;

(C) for each segment of the navigable waters included on such lists, a determination of the specific point sources discharging any such toxic pollutant which is believed to be preventing or impairing such water quality and the amount of each such toxic pollutant discharged by each such source; and;

(D) for each such segment, an individual control strategy which the State determines will produce a reduction in the discharge of toxic pollutants from point sources identified by the State under this paragraph through the establishment of effluent limitations under section 1342 of this title and water quality standards under section 1313(c)(2)(B) of this title, which reduction is sufficient, in combination with existing controls on point and nonpoint sources of pollution, to achieve the applicable water quality standard as soon as possible, but not later than 3 years after the date of the establishment of such strategy."

point sources". Section 304(1)(1)(B). The list is commonly known as the "B list".

Section 304(1) also requires states to prepare "individual control strategies" ("ICS") to control toxic pollutant discharges. To implement Section 304(1), EPA promulgated regulations on June 2, 1989.³⁰ The regulations interpret an "individual control strategy" to mean "a final NPDES permit with supporting documentation showing that effluent limits are consistent with an approved wasteload allocation, or other documentation which shows that the applicable water quality standards will be met not later than three years after an individual control strategy is established."³¹

The ICS or permit must reduce toxic pollutant discharges from identified point sources "in combination with existing controls on point and nonpoint sources of pollutants".³² The regulations require ICS's for surface waters on the B list, i.e. for waters which do not or are not expected to achieve applicable water quality standards "due

³⁰ 54 Fed. Reg. 23896.

³¹ 40 CFR Section 123.46(c).

³² 40 CFR Section 123.46(a).

entirely or substantially to discharges from point sources" of toxic pollutants.³³

On February 3, 1989, the State Board sent EPA its B list of impaired waters and contributing point sources. The South Bay was included on this list because conditions violated the narrative receiving water quality objective for toxicity. Point sources which were identified as contributing to the violation of standards included three municipal wastewater treatment plants,³⁴ and "stormdrains." The list identified seven toxic pollutants (cadmium, copper, lead, mercury, nickel, selenium and silver) as causing the impairment.

G. Adoption of the Permit

In an attempt to fulfill the numerous requirements of the 1986 Basin Plan amendments, the provisions of state law regarding adoption of waste discharge requirements,³⁵ the Clean Water Act provisions regarding storm water permits and

³³ 40 CFR Section 130.10(d). The regulations only require ICS's for those surface waters identified on the B list. 40 CFR Section 123.46(a). In a recent court decision, it was held that this interpretation was too narrow, and the regulations were remanded to EPA for reconsideration. Natural Resources Defenses Council v. Environmental Protection Agency (9th Cir. 1990) 915 F.2d 1314. The other lists required under Section 304(1) are the "A(i) list" of surface waters not expected to attain water quality standards due to toxic pollutants (Section 304(1)(1)(A)(i)) and the "A(ii) list" of surface waters which will not attain water quality which "assure[s] protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water". Section 304(1)(1)(ii).

³⁴ See our earlier order regarding these plants, Order No. WQ 90-5.

³⁵ California Water Code Section 13000 et seq.

Section 304(1), and the federal regulations regarding Section 304(1), the Regional Board issued a draft NPDES permit for the Santa Clara Valley Nonpoint Sources Agencies' (the dischargers) storm water discharges throughout Santa Clara Valley. Public hearings were held by the Regional Board on May 16 and on June 20, 1990, and on the latter date the Regional Board adopted the NPDES permit (NPDES permit CA0029718; Regional Board Order No. 90-094). Subsequently, the petitioners filed a timely petition for review of the NPDES permit. On September 28, 1990, EPA approved the permit as an ICS.³⁶

II. CONTENTIONS AND FINDINGS

The petition raises a number of contentions which all address whether the permit must include numeric, water quality-based effluent limitations. The petitioners argue that, both as an NPDES permit regulating storm water discharges and as an ICS, the permit must prescribe numeric effluent limitations for toxic pollutants (specifically cadmium, copper, lead, mercury, nickel, selenium, silver and "toxic organic pollutants") in regulated storm water discharges.

The petitioners' arguments contend that numeric effluent limitations are required both pursuant to the legal

³⁶ The document transmitting EPA's approval constituted EPA's final agency action and is entitled, "Decision of the United States Environmental Protection Agency on Listings under Section 304(1) of the Clean Water Act Regarding the State of California." This Decision will be referred to as "304(1) Decision." On page 20, EPA states: "EPA approves NPDES permit CA0029718 as the individual control strategy for the South San Francisco Bay Stormdrains. The permit requires attainment of water quality standards in South San Francisco Bay."

requirements for NPDES permits generally and for ICS's specifically. The petitioners generally contend that the dischargers are causing pollutants to enter the South Bay and to violate water quality standards there, and that the only acceptable means to control this impact is to place numeric limitations on the dischargers' effluent. The petitioners also contend that the permit does not comply with statutory deadlines in the Clean Water Act. Finally, the petitioners seek inclusion of specified measures to reduce pollutants from transportation facilities and practices.

In order to address the various arguments made by the petitioners, we must discuss some of the factual assumptions which the petitioners have made, along with the legal contentions. Our order of presentation varies somewhat from the petitioners', but all of the major points are covered.³⁷

A. Location of the Storm Water Discharges in the Santa Clara Valley

The petitioners' arguments are based on the premise that the dischargers' municipal separate storm sewer system discharges pollutants to the South Bay and that these discharges are significantly impairing its beneficial uses. The petitioners contend that these beneficial uses are jeopardized by the failure of the permit to contain numeric effluent limitations. As we shall explain, the petitioners' broad assertions vastly oversimplify the complex nature of the dischargers' flood control

³⁷ Any issue not specifically discussed herein is dismissed for failure to raise substantial issues appropriate for review. 23 Calif. Code of Regulations, Section 2052(a)(1).

and drainage facilities, imply that the storm sewer system discharges only into the South Bay, and misconstrue ambient water quality criteria, receiving water quality standards and effluent limitations.

The storm drains are generally point sources,³⁸ which discharge upstream from the South Bay.³⁹ While pollutants may be transported from the storm drains to the South Bay, the process of this transportation and the amounts of pollutants reaching the South Bay are unknown.

The documents and reports required by the 1986 Basin Plan, and which accompanied the permit application, describe the dischargers' municipal separate storm sewer system. This system, a vast network of catchments, street gutters, conduits, pipes and channels, collects urban runoff flows and storm water flows from eleven distinct watersheds and a land area greater than 700 square miles. Numerous outfalls (point sources) exist throughout the entire Santa Clara Valley, which discharge urban runoff and storm water flows into nearby natural surface waters. The permit

³⁸ The term "point source" is defined in the Clean Water Act as:

"...any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged..." Section 502(14).

³⁹ The documents prepared by the State Board and EPA pursuant to Section 304(1) speak only vaguely of "stormdrains" and do not specify to which specific stormdrains they refer. We do acknowledge that the petitioners may have read these documents to mean that a determination had been made that storm water discharges are known to contribute significant pollutants directly to the South Bay. However, as we will explain *infra*, the decision to list "stormdrains" as a point source on the B list was based on minimal information and a reading of Section 304(1) requiring listing under the circumstances.

covers the dischargers' entire jurisdiction. Many of the surface waters are separately identified in the Basin Plan, and water quality standards are established, as described above. The surface waters then flow into the South Bay.

While the precise location of each outfall is not apparent in the record (and may not be known at this time), the dischargers' storm sewers generally convey waste to specific, identified receiving waters other than the South Bay. The permit contains a finding regarding the point of discharge:

"Discharge consists of the surface runoff generated from various land uses in all the hydrologic subbasins in the basin which discharge into watercourses which in turn flow into South San Francisco Bay."⁴⁰

The natural water courses to which the storm sewers discharge are not in themselves part of the dischargers' municipal separate storm sewer system. The EPA regulations define the term "municipal separate storm sewer" as "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains)...."⁴¹ In the Santa Clara Valley, the storm sewer outfalls discharge to the water courses upstream

⁴⁰ Permit, Finding Number 3.

⁴¹ 40 CFR Section 122.26(b)(8).

from the South Bay These water courses are themselves waters of the United States.⁴²

Storm water discharge, which originates as a diffuse, nonpoint source flow, becomes a "point source" addition of pollutants at the discrete intersection of the conveyance (outfall) and waters of the United States. While there may be cases where it is difficult to distinguish waters of the United States from the dischargers' conveyance systems, where the outfall leads to a natural stream with designated beneficial uses and water quality objectives, the outfall is the point source. The mouth of the river or creek at the South Bay is not a point source. The dischargers' storm sewer system conveys waste, though numerous point source outfalls, to Santa Clara Valley's creeks, streams and rivers. Few storm sewers discharge directly into South San Francisco Bay.

B. Conditions of the Receiving Waters

Both the South Bay and the water courses which receive the storm water discharges have beneficial uses. However, the uses of the streams, creeks, and rivers in the Santa Clara Valley are not the same as the uses of the South Bay. (This point is obvious since the upstream waters are fresh and the Bay is

⁴² The EPA regulations provide:

"'Outfall' means a 'point source' as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States." 40 CFR Section 122.26(b)(9).

estuarine.) The Valley surface waters are chiefly used for municipal supply, agricultural supply, ground water recharge, body contact and non-contact recreation, cold and warm freshwater habitat, wildlife habitat, and fish migration and spawning, and, in some cases, for freshwater replenishment, navigation, and rare and endangered species habitat.⁴³

As described above, the objectives contained in Table III-2A of the 1986 Basin Plan are not applicable to the South Bay.⁴⁴ Even though the Basin Plan appears to state that these objectives may apply to the Santa Clara Valley surface waters, the marine water criteria which are enumerated in Table III-2A clearly do not. Criteria intended to protect marine or estuarine water uses, especially aquatic habitat, cannot simply be interpolated for freshwater uses such as drinking water supply, since the bases for the criteria are different.

A better reading of the 1986 Basin Plan is that EPA's ambient fresh water criteria, which are also the water quality objectives in Table III-2B, apply to the upstream water courses. Table III-2A states that EPA fresh water criteria⁴⁵ "can be applied seasonally, where appropriate."⁴⁶ It appears that the Regional Board intended that such fresh water criteria may be

⁴³ 1986 Basin Plan.

⁴⁴ In Order No. WQ 90-5, we recently directed the Regional Board to adopt numeric water quality objectives for toxic pollutants in the South Bay.

⁴⁵ EPA's most recent compilation of water quality criteria is the "Gold Book", entitled Quality Criteria for Water 1986 (EPA 440/5-86-001). These criteria have not been adopted as rules or regulations.

⁴⁶ 1986 Basin Plan, Table III-2A, footnote b.

applied to such water courses as the Santa Clara Valley surface waters. We reach this conclusion because ambient criteria for protection of uses in freshwater are clearly more appropriate than the estuarine or marine water criteria. The record indicates that the water courses upstream of the South Bay may be impaired or threatened by a variety of pollutant sources, including storm drains and nonpoint sources, such as abandoned mines. However, none of the upstream water bodies was included on the Section 304(l) "B" list.

The petitioners argue that by including "stormdrains" as contributors to impairment of the South Bay on the B list, "[t]oxic pollutants and toxicity known to be present in the dischargers' (sic) discharges are known to violate water quality standards and impair uses."⁴⁷ We find, instead, that the decision to list storm drains as a point source on the B list was based on the available evidence at the time, and a broad reading of the types of pollutant sources to the South Bay which should be listed. In making the findings for the listing, we stated:

"Our review of the data, therefore, concerning the relative metals loadings from point and nonpoint sources indicates that impairments of water quality in the South Bay cannot be attributed to one or the other category of source. Rather, any regulatory strategy to improve the water quality and protect beneficial uses in the South Bay must take both categories or sources into account."⁴⁸

⁴⁷ See Exhibit 2 to Petition, page 11.

⁴⁸ State Board Order No. WQ 90-5 at page 55.

On April 11, 1991, we adopted the Statewide Water Quality Control Plans for Inland Surface Waters of California (Inland Plan) and for Enclosed Bays and Estuaries of California (Bays and Estuaries Plan), which include numeric water quality objectives which will apply to the surface waters of Santa Clara Valley and to the South Bay. The plans provide five years for the Regional Board to determine what actions are appropriate to ensure that storm water discharges are in compliance with the numeric objectives. The Plans further provide: "All dischargers shall be given a maximum of 10 years from the date of adoption of this plan to come into compliance with the numerical objectives in this plan." See, March 26, 1991 Draft, at page A-28.

C. Storm Water Discharge Characteristics

Pursuant to the 1986 Basin Plan requirements, the dischargers conducted dry- and wet-weather monitoring to characterize urban runoff and storm water flows from the municipal separate storm sewer system. From these investigations, cadmium, chromium, copper, lead, nickel and zinc were found in detectable concentrations in residential, commercial and industrial land use runoff and in the Santa Clara Valley surface waters. Arsenic, mercury, selenium and silver were seldom detected.⁴⁹ Further, significant differences were recorded between dry-weather and wet-weather stream concentrations, and runoff pollutant concentrations varied

⁴⁹ Santa Clara Valley Nonpoint Source Study, Volume I: Loads Assessment Report.

considerably between storms and between locations. The evidence suggests that storm water and urban runoff transport heavy metals which are then deposited with sediments in the Santa Clara Valley creeks and streams. The physical aspects of runoff (that is, the erosion and scour of these sediments in the receiving waters) resuspends pollutants during storm events. Wet weather flow in the natural water courses likely transports resuspended pollutants to the South Bay.

In comparing storm water runoff and receiving water concentrations to EPA's criteria, heavy metals concentrations were typically less than the chronic toxicity criteria during dry-weather periods. Copper and, to a lesser extent, zinc, lead and cadmium, exceeded the acute toxicity criteria values during wet-weather. Laboratory tests were also performed to study toxicity using undiluted, static-renewal effluent samples for both dry-and wet-weather periods. The dry-weather test results were inconsistent and inconclusive. In the dischargers' wet-weather laboratory samples, approximately 75 percent of these samples significantly affected Ceriodaphnia test organisms. Even though a few heavy metals did exceed acute toxicity criteria in the same samples, the lethal effects could not be definitively correlated to the presence of particular heavy metals alone. Test results suggest the presence of other, unmeasured chemical agents or factors.

The results of the characterization studies indicate that the nature and effects of storm water discharges are

complicated. While we are concerned about the effects of the dischargers' storm water discharges on aquatic life and other beneficial uses, we also note that the various point sources and nonpoint sources affect these uses in a complicated and little-understood fashion. In attempting to solve the problems of the South Bay we must ensure that the Regional Board uses its authority to control both point and nonpoint sources in the most effective manner possible.

D. The Regional Board's Pollution Control Strategy

As we have discussed above, the dischargers' municipal separate storm sewer system generally discharges waste into numerous receiving waters, and not directly into the South Bay. The characterization studies which have been performed do suggest that potential threats exist and warrant appropriate control. Following the requirements of the 1986 Basin Plan and Clean Water Act Section 402(p), the Regional Board adopted the NPDES permit as an initial element of its storm water control strategy for protecting the surface waters of the Santa Clara Valley.

The NPDES permit employs a two-fold strategy; it prohibits non-storm water discharges and illicit connections, and it requires a comprehensive series of regulatory, governmental, and educational control measures. The first element effectively prohibits unpermitted industrial discharges into the storm sewer

system, and should also prohibit most dry-weather "urban runoff" discharges.⁵⁰

The second element prescribes area-wide and community-specific source reduction, hydraulic, and treatment-based control measures. For example, some of the regulatory measures include local ordinances to prohibit litter and hazardous waste disposal, regulations governing oil and grease disposal, provisions for construction site drainage, and increased use of permeable landscaping and surfaces. Public agency control measures include intensified street sweeping, bimonthly community cleanup days, illegal dumping investigations, and detention and infiltration projects. As potential contaminants in storm sewer flows substantially originate from human activities, the permit requires extensive educational and outreach programs geared toward residents and small businesses.

The method by which the specific control activities will be implemented is that the dischargers must submit a Management Plan for approval by the Regional Board, and then must implement the Plan. Thus, the permit lists some, but not all of the management practices which will be undertaken. The dischargers have already identified a list of practices from which the individual entities will select. The specific

⁵⁰ "Illicit discharge" is defined in EPA's regulation as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities." 40 CFR Section 122.26(b)(2). While this regulation was adopted subsequent to issuance of the permit, it is assumed that this definition will apply.

practices will be selected over a two-year period starting with adoption of the NPDES permit.

In addition to the basin-wide and community-specific "best management practices" required by the permit and the prohibitions against discharging non-storm water, the permit also prohibits discharges of storm water which cause or contribute to violation of receiving water limitations. The receiving water limitations disallow the creation of conditions of pollution or nuisance in the receiving waters. In addition, the discharge may not cause a violation of "any applicable water quality objective for receiving waters."⁵¹

The permit does not include specific, numeric effluent limitations which would be measured at the outfalls. This omission is the crux of the petitioners' complaints.

E. Legal Requirements of Clean Water Act Sections 301 and 402(p)

The petitioners contend that the Clean Water Act, and regulations and court decisions interpreting the Act, require the inclusion of numeric effluent limitations in NPDES permits for the discharge of storm water from a municipal separate storm sewer system. We have reviewed these authorities, and also opinions we have received from EPA, and conclude that numeric effluent limitations are not legally required. Further, we have determined that the program of prohibitions, source control

⁵¹ Permit, Receiving Water Limitation B.2.

measures and "best management practices" set forth in the permit constitutes effluent limitations as required by law.

First and foremost, the petitioners contend that by virtue of the absence of numeric effluent limitations, the permit contains no "effluent limitations" or "water quality-based effluent limitations."⁵² The petitioners assert that effluent limitations can only be numeric concentration values for individual constituents. Our review of the relevant law reveals that the permit's scheme of prohibitions, source control measures and best management practices constitutes valid effluent limitations consistent with requirements of "maximum extent practicable" controls and water quality standards.

Before we address the acceptability of practices as "effluent limitations" we shall review the mandate contained in the Clean Water Act that NPDES permits in general must contain effluent limitations, and we shall decide whether that mandate applies to permits regulating municipal discharges of storm water in particular.

Section 301 of the Clean Water Act prohibits the discharge of any pollutant,⁵³ unless pursuant to a NPDES permit

52 Indeed, even among Regional Board staff and the dischargers there appeared to be confusion regarding the term "effluent limitation". See e.g., transcript from May 16, 1990 Regional Board hearing, at page 11. All parties to the permit appeared to be under the impression that the permit did not contain effluent limitations. As we will explain, however, our determination that best management practices may constitute effluent limitations is certainly not novel.

53 "Discharge of a pollutant" is defined to include "any addition of any pollutant to navigable waters from any point source." Clean Water Act Section 502(12).

(or other method in compliance with the Act). Section 301(b) further requires point sources to be in compliance with effluent limitations which require the application of "best practicable control technology currently available," and which are necessary to meet water quality standards established under state law, by July 1, 1977.⁵⁴ Section 301 also requires compliance with any more stringent effluent limitations which are necessary to protect water quality standards. The former effluent limitations are generally referred to as technology-based, while the latter are referred to as water quality-based.

Thus, the general rule in Section 301 is that point sources must comply with effluent limitations. These effluent limitations are contained in NPDES permits, for which standards are set out in Clean Water Act Section 402. Section 402(a)(1) provides that permits may allow the discharge of pollutants, so long as the permit requires compliance with applicable requirements including Section 301.

Subsection (p) was added to Section 402 in order to clarify the specific requirements relating to discharges of storm water. Section 402(p)(3) specifies the permit requirements for industrial and municipal discharges:

"(A) Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section 1311 [Section 301] of this title.

"(B) Permits for discharges from municipal storm sewers--

⁵⁴ For certain pollutants, effluent limitations which require "best available technology economically achievable" must be met by March 31, 1989. As will be explained *infra*, the deadlines contained in Section 301(b) are clearly not applicable to municipal dischargers of storm water.

"(i) may be issued on a system-or jurisdiction-wide basis;

"(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

"(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."⁵⁵

While the permit requirements for industrial discharges require compliance with all applicable provisions of Section 402 and with Section 301, Section 402(p)(3)(B) is ambiguous as to whether municipal storm water discharges must comply with these general requirements (including effluent limitations). The requirements specified for municipal discharges are only a prohibition against non-storm water discharges and "controls to reduce the discharge of pollutants to the maximum extent practicable."⁵⁶ Thus, the first issue which arises is whether the requirements of Section 301 and of Section 402, other than subsection 402(p), apply to municipal storm water discharges.

The petitioners claim that Section 402(p) requires the inclusion of effluent limitations in permits, and specifically effluent limitations necessary to meet water quality standards.

⁵⁵ It is clear that the time limitations in Section 301 do not apply to either type of discharge. Industrial and large municipal discharges are given three years after issuance to comply with permit terms. Section 402(p)(4)(A).

⁵⁶ The third provision in the municipal requirements, issuance on a system- or jurisdiction-wide basis, is couched in permissive rather than mandatory terms.

The dischargers, along with many interested municipalities throughout the State, claim that the only standards which they must meet are the reduction of pollutants to the "maximum extent practicable" ("MEP") and the prohibition against non-storm water discharges.

In reviewing the terms of Section 402(p), we find that the meaning of the statute on its face is not clear. On the one hand, there is nothing in Section 402(p) which states that the general provisions of Sections 301 and 402 do not apply to municipal storm water discharges. This would lead us to conclude that these general provisions do apply. On the other hand, the subsection applying to industrial discharges specifies that those general provisions apply, while the subsection referring to municipal storm water discharges is silent on this point. Because the meaning of the statute is ambiguous, we will look to other sources to determine the legislative intent.⁵⁷

The legislative history is generally silent on the meaning of the MEP standard and the distinction between industrial and municipal discharges.⁵⁸ However, we have obtained an interpretation from EPA, and that interpretation must be accepted as a valid interpretation of the federal law, unless

⁵⁷ See Cal. Jur. III, Vol. 58, Statutes, page 453.

⁵⁸ 1987 U.S. Code Cong. and Adm. News, pages 38-39. Senator Durenberger is quoted as saying that MEP includes such controls as "management practices, control techniques and systems, [and] design and engineering methods." Volume 132, No. 143 Congressional Record, S16443 (October 16, 1986).

it is manifestly unreasonable. National Wildlife Federation v. Gorsuch (D.C. Cir. 1982) 693 F.2d 156. In a memorandum from its Assistant Administrator and General Counsel,⁵⁹ EPA proceeds to consider two plausible interpretations: (1) Congress intended to waive all Section 301 requirements for municipal discharges in favor of the MEP standard, or (2) the MEP statutory requirement modified only the technology-based requirements contained in Section 301, and left in place the need for water quality-based requirements, even if those requirements would be more stringent than MEP. EPA concluded by adopting the latter interpretation.

EPA gave two reasons for its conclusion that municipal storm water discharges do not need to meet technology-based standards contained in Section 301, but that they must meet water quality-based standards. First, a contrary reading would require the conclusion that Congress implicitly repealed Section 301 as applied to these discharges. Such a conclusion would generally be disfavored by courts. Second, such a reading would interpret the Water Quality Act of 1987 as weakening the standards of the Clean Water Act, whereas the available legislative history indicates a desire to strengthen its provisions.

In reviewing EPA's interpretation, we cannot conclude that it is wholly unreasonable. Further, we have an interest as a state agency in supporting this rationale. It is the state-adopted water quality standards which EPA claims must be met by provisions of the permit. We must conclude that it is in the

⁵⁹ Memorandum from E. Donald Elliot to Nancy J. Marvel, Regional Counsel, EPA Region IX, regarding "Compliance with Water Quality Standards in NPDES Permits Issued to Municipal Separate Storm Sewer Systems", dated January 9, 1991.

interest of the State to be able to enforce its standards in the provisions of NPDES permits. See, Clean Water Act Section 510. Further, since the State has the authority to adopt the water quality standards, we believe that we can incorporate into these standards the necessary flexibility to allow realistic opportunity for compliance.⁶⁰ We have used this flexibility in our recently-adopted Inland Plan and Bays and Estuaries Plan. These provide ten years for storm water dischargers to come into compliance with numeric water quality objectives. In addition, the Plans emphasize source reduction of toxic pollutants and development of best management practices before costly end-of-the-pipe treatment is required. See, California Inland Surface Waters Plan, at page A-24.

We therefore conclude that permits for municipal separate storm sewer systems issued pursuant to Clean Water Act Section 402(p) must contain effluent limitations based on water quality standards. As we discussed earlier, the applicable water quality standards in this matter are those established for the creeks and streams which are predominantly the receiving waters of the storm water discharges. These standards appear generally to be EPA's fresh water criteria. The Inland Plan also contains applicable water quality objectives which will be submitted to EPA for approval as water quality standards. Dischargers of storm water are given a maximum of ten years to come into

⁶⁰ The Regional Board adopts water quality objectives pursuant to its authority in Water Code Section 13240 and following. This Board may also adopt water quality objectives pursuant to Water Code Section 13170.

compliance with the numeric objectives contained in the Inland Plan. We will now consider whether "best management practices" constitute acceptable effluent limitations, or whether numeric effluent limitations based on numeric water quality standards are required.⁶¹

While the petitioners have correctly pointed to the absence of numeric effluent limitations, the permit prohibits non-storm water discharges, and includes receiving water limitations and a requirement that the discharge not cause the violation of any water quality objectives. The permit does, therefore require compliance with water quality standards. The major issue is whether numeric effluent limitations are also required.

As we stated above, the Regional Board and the dischargers assumed that the permit did not include effluent limitations. However, in its response to the petition, Region IX of EPA concludes that effluent limitations need not be numeric, and may instead constitute any measures to reduce pollutants in the discharge including "best management practices."⁶² This response is also consistent with EPA's 304(1) Decision, in which

⁶¹ A point which is not directly at issue here is what sort of effluent limitations are required to meet the MEP standard set forth in Section 402(p). While the question of what actions are required to achieve MEP may indeed be a source of substantial controversy, it is clear that the inclusion of best management practices in a permit (rather than numeric effluent limitations) is an acceptable means of complying with the MEP requirement. See, Vol. 132, Congressional Record, S16443 (October 16, 1986).

⁶² See letter from Harry Seraydarian, Director, Water Management Division, to Elizabeth Miller Jennings, Senior Staff Counsel, State Water Resources Control Board, dated October 24, 1990.

it approved the permit as an ICS pursuant to Clean Water Act Section 304(1). Because EPA undertook a final action in the 304(1) Decision, approving the permit with best management practices rather than numeric effluent limitations, we assume that EPA's formal agency position is that expressed in the response from Region IX. Therefore, we shall follow this interpretation unless it is manifestly incorrect.

The statutory definition of "effluent limitation" is broad and supports EPA's contention that a numeric limit is not required:

"The term 'effluent limitation' means any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable water, the waters of the contiguous zone or the ocean, including schedules of compliance." Clean Water Act Section 502(11).

The definition of "effluent limitation" contained in EPA's regulations is similarly broad:

"Effluent limitation means any restriction imposed by the Director [or a State] on quantities, discharge rates, and concentrations of 'pollutants' which are 'discharged' from 'point sources' into 'waters of the United States,' the waters of the 'contiguous zone,' or the ocean." 40 CFR Section 122.2.

In a decision by a federal court of appeals, the court stated that it did not agree with the premise that effluent limitations must be articulated "in terms of a numeric effluent standard." Natural Resources Defense Council v. Costle (D.C. Cir. 1977) 568 F.2d 1369. Rather, the court stated that

Section 402 "gives EPA considerable flexibility in framing the permit to achieve a desired reduction in pollutant discharges. The permit may proscribe industry practices that aggravate the problem of point source pollution." 586 F.2d at 1380. (Emphasis added.) Costle concerned whether specific discharges, including storm water, must be regulated by NPDES permits. EPA had assumed that numeric effluent limitations were required, and argued that these would be infeasible. Instead, the court clarified that specific practices could be required, especially in cases such as storm water regulations, where numeric permit limitations would be difficult to enforce.

Following the Costle case, and several attempts by EPA to establish a regulatory program for storm water permits, the Clean Water Act was amended to incorporate Subsection 402(p). Given this background in the development of storm water regulations, it appears reasonable to assume that in adopting subsection 402(p), Congress intended to allow EPA to regulate "practices" as suggested by the court.

In a more recent decision by the Ninth Circuit court of appeals, it was held that numeric, technology-based effluent limitations may not always be appropriate, and that EPA must include in permits it adopts whatever effluent limitations are necessary to achieve state water quality standards. Trustees for Alaska v. Environmental Protection Agency (9th Cir. 1984) 749 F.2d 549. Section 302 of the Clean Water Act describes the use of effluent limitations to protect beneficial uses of water where

the application of technology-based standards is inadequate.⁶³ This section states that water quality-based effluent limitations may include "alternative effluent control strategies." Clean Water Act Section 302(a). Plainly, the term "alternative effluent control strategies" encompasses the types of control measures prescribed in the NPDES permit.⁶⁴ Costle, supra, at note 21.

Finally, EPA's storm water regulations, while not specifically addressing the contents of municipal permits, clearly emphasize a "best management practices" approach. The information which municipalities must submit in their applications concerns establishment of a control program with specific structural and non-structural controls. There is nothing in the storm water regulations which would indicate an approach which mandates numeric effluent limitations.

⁶³ Section 302(a) provides:

"Whenever, in the judgment of the Administrator or as identified under section [304(1)] of this title, discharges of pollutants from a point source or group of point sources, with the application of effluent limitations required under section [301(b)(2)] of this title, would interfere with the attainment or maintenance of that water quality in a specific portion of the navigable waters which shall assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water, effluent limitation (including alternative effluent control strategies) for such point source or sources shall be established which can reasonably be expected to contribute to the attainment or maintenance of such water quality."
(Emphasis added.)

⁶⁴ EPA has also adopted regulations regarding the establishment of water quality-based effluent limitations. These regulations are discussed in the next section.

In conclusion, we agree with EPA that Sections 301 and 402 must be read to require municipal storm water discharges to meet MEP and also to achieve compliance with water quality standards. The most reasonable way of blending these two sections together is to write permits which seek implementation of water quality standards through the controls which constitute MEP. In other words, Section 402(p) should be read to require permits to include actions which constitute MEP for the first three years, and then an evaluation of further actions which must be taken if water quality standards are not protected. We do not believe this reading is inconsistent with EPA's requirement that standards be met within three years, since MEP will be the most effective method of achieving reductions in pollutants contained in storm water, as discussed below. Region IX of EPA expressed this policy well in their response to the petition:

"Region 9 believes that it would be premature for a municipal storm water permit to include numerical effluent limitations. Storm drains raise unique problems and differ from other types of point source discharges in that only limited information is currently available concerning the sources and loadings of the pollutants and the effectiveness of many of the control measures. While NPDES permits have been issued since the mid-1970s for industrial dischargers and POTWs, permitting of municipal storm drains is still in its infancy and additional information is necessary to determine the best means for achieving compliance with water quality standards."

As a final point, we note that the provisions contained in the permit also comply with the state law requirements for

adoption of waste discharge requirements. Water Code Section 13263 provides that requirements:

"...shall implement relevant water quality control plans, if any have been adopted, and shall take into consideration the beneficial uses to be protected, [and] the water quality objectives reasonably required for that purpose...."

We find that the permit includes a comprehensive and stringent program for reducing pollutants in storm water discharge, and that it will implement the Basin Plan, including the protection of beneficial uses.

F. Legal Requirements of Clean Water Act

Section 304(1)

The NPDES permit was issued pursuant to both Clean Water Act Sections 402(p) and 304(1). Thus, the permit must be adequate not only as a NPDES permit regulating storm water under Section 402(p), but it must also meet the requirements of Section 304(1) and the regulations adopted thereunder.⁶⁵

Section 304(1)(1)(B) required this Board to compile a list of surface waters for which we do not expect water quality standards will be achieved after requirements of Section 301 and other applicable sections are met, "due entirely or substantially to discharges from point sources" of specified toxic pollutants. In addition, for each segment of waters included on the B list, we were required to determine the "specific point sources

⁶⁵ *The Section 304(1) regulations concerning water quality-based effluent limitations, which we shall discuss in this section, are applicable whenever permits must require compliance with water quality standards, and not just where Section 304(1) is applicable. Therefore, these regulations would also have to be satisfied even if these storm drains had not appeared on the 304(1) B list.*

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based limits on one or more point sources would result in the achievement of an applicable water quality standard for a toxic pollutant; or
"(ii) The discharge of a toxic pollutant from one or more point sources, regardless of any nonpoint source contribution of the same pollutant, is sufficient to cause or is expected to cause an excursion above the applicable water quality standard for the toxic pollutant." 40 CFR Section 130.10(d)(5).

It should be noted that waters must be listed where, notwithstanding the impacts of nonpoint sources, the contribution of the point source "is expected to cause" the water body to

⁶⁶ *54 Federal Register 23868-23899.*

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exceed water quality standards. Section 130.10(d)(5)(ii). This means that waters may be put on the B list even where the nonpoint sources are the more significant contributors to the violation of water quality standards. Moreover, in its preamble to the 304(1) regulations, EPA noted two points especially relevant here. First, EPA noted the difficulty of developing ICS's for storm water outfalls. 54 Federal Register 23884 (1989). Second, EPA discussed the lack of available data to make the determinations required by Section 304(1) and the short time schedule available. Nonetheless, EPA directed the states to "rely on existing and readily available data" and discussed what it considered to be "the minimum existing and readily available water quality data and information that a state and EPA can reasonably attain." 54 Federal Register 23884 (1989).

Taking together 40 CFR 130.10(d)(5)(ii) and EPA's comments concerning storm water outfalls and scant available data, it is clear that there may be situations where point sources are included on the B list where at the time of listing, their proportionate wasteload contribution to the excursion of water quality standards is unknown, where regulation through traditional methods available for point sources is not feasible, and where any provisions requiring a reduction in the discharge of pollutants from these point sources may not be adequate to allow the receiving water to achieve water quality standards (in light of continuing contributions from nonpoint sources).

It appears that the instant matters includes all of these variables. As was discussed above, while the

dischargers' storm drains are point sources, they do not generally discharge directly to the South Bay, and their relative contribution, via riverine transport, to the South Bay's impairment is still unknown.⁶⁷ In short, given the available data, we do not believe that any restraints--that is, numeric effluent limitations--which could be imposed on the discharge of pollutants through the storm drain system would alone attain water quality standards in the South Bay.

We do note that EPA's definition of ICS may be read to require that ICS's be set so as to ensure that receiving waters will achieve water quality standards. In 40 CFR Section 123.46, EPA set forth the requirements of ICS. The term ICS is defined as: "a final NPDES permit with supporting documentation showing that effluent limits are consistent with an approved wasteload allocation, or other documentation which shows that applicable water quality standards will be met not later than three years after the [ICS] is established." Section 123.46(c). However, a recent court decision has brought this requirement into question. In Natural Resources Defense Council v. Environmental Protection Agency (9th Cir. 1990) 915 F.2d 1314, the court disapproved of one portion of EPA's Section 304(1) regulations, and remanded the

⁶⁷ In EPA's response to comments regarding its final decision regarding lists of waters, sources and pollutants under Section 304(1), it conceded the lack of scientific data available concerning South San Francisco Bay. EPA concluded "that narrative standards for toxicity are being exceeded in South San Francisco Bay and that the exceedance is due substantially to POTW and storm drain point source discharges of toxic pollutants." To support this conclusion, EPA pointed to a final Staff Report of the State Board, supporting our Order No. WQ 90-5, wherein it is stated that "the State Board agrees that the relative contribution of point and nonpoint sources to ambient water conditions has not been established." 304(1) Decision.

regulations to EPA for reconsideration. The court determined that EPA must list point sources for all water bodies which appear on any of the Section 304(1) lists, not just the B list.⁶⁸ It did not reach the question whether ICS's are required for all listed point sources, or only for those related to B lists. This is the issue which was remanded to EPA. In reading this court decision, it is apparent that it is not expected that all point sources which are designated under Section 304(1) are capable of limiting pollutants to an extent that water quality standards will be met in the receiving water. Further, it is certainly questionable whether an ICS will be able to ensure that the receiving waters will achieve water quality standards.

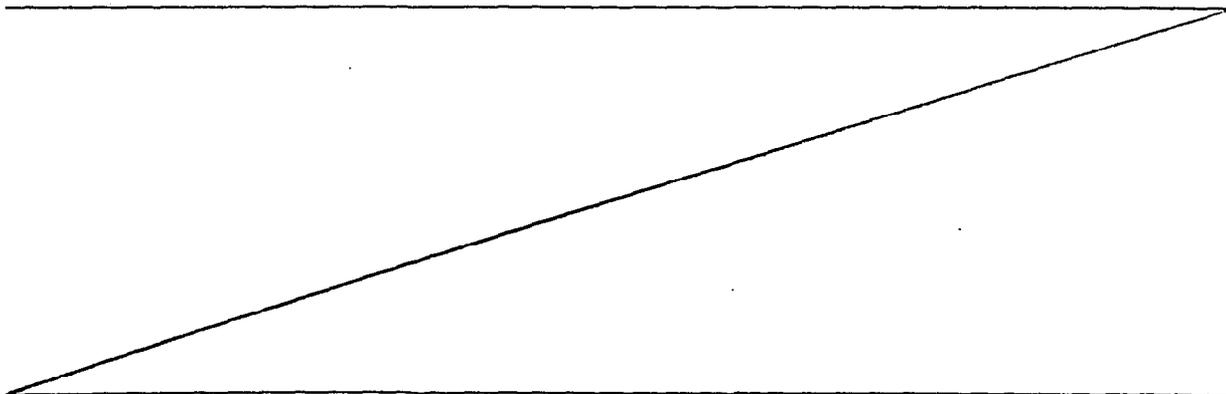
The regulations themselves raise questions as to whether it will always be feasible to assure compliance with water quality standards simply through adoption of an ICS. The pollutants associated with storm water discharges are apparently bound up in sediments in dry weather periods and are resuspended and transported in storm events. The Preamble to the Section 304(1) regulations states that water quality impairments due to sediments contaminated and deposited by active point sources (such as storm drains) must be included on the B list.

⁶⁸ The other two lists are known as the "(A)(i) list" and the "(A)(ii) list." Section 304(1)(1)(A)(i) requires a list of water bodies in which water quality standards are not expected to be achieved after the application of effluent limitations to point sources. The list required by Section 304(1)(1)(A)(ii) must include waters which, after application of effluent limitations to point sources, are not expected to "assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water."

Nevertheless, NPDES permits do not apply to the sediments. 54 Federal Register 23883. Given the complicated and little understood process of transportation and resuspension of sediments, it is not possible to calculate numeric effluent limitations which would apply to storm drain outfalls and would be based upon water quality standards in downstream waters such as the South Bay.

Notwithstanding the ambiguities raised in interpreting Section 304(1), we must still address whether the effluent limitations contained in the permit are adequate as water quality-based effluent limitations pursuant to EPA's regulations. EPA adopted regulations at 40 CFR 122.44(d) which set forth requirements for water quality-based limitations. These regulations were adopted to comply with Section 304(1). See, 54 Federal Register 23870.

EPA's regulations concerning the establishment of limitations, standards, and other permit conditions, including effluent limitations, appear in 40 CFR 122.44. Section 122.44(d)(1) requires the inclusion of requirements in



NPDES permits necessary to achieve water quality standards.⁶⁹ That subsection requires the inclusion of effluent limitations for specific pollutants where those pollutants cause, have the reasonable potential to cause, or contribute to an in-stream excursion above narrative or numeric criteria within an ambient water quality standard.

The petitioners point to Section 122.44(d)(1) in claiming that numeric effluent limitations are required. However, the term "numeric" effluent limitation does not appear in Section 122.44(d)(1). Concededly, in most cases, the easiest and most effective chemical-specific limitation would be numeric.⁷⁰ However, there is no legal requirement that effluent limitations be numeric.

⁶⁹ Section 122.44(d)(1) provides, in relevant part, that NPDES permits must include:

"any requirements...necessary to...[a]chieve water quality standards...."

"(i) Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard...."

* * *

"(iii) When the permitting authority determines...that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant."

* * *

"(v) ...[W]hen the permitting authority determines...that a discharge causes, has the reasonable potential to cause, or contributes to an instream excursion above a narrative criterion within a applicable State water quality standard, the permit must contain effluent limits for whole effluent toxicity."

⁷⁰ In fact, in our order regarding discharges from POTW's to the South Bay, we found that numeric effluent limitations were appropriate and feasible.

Even in Section 122.44 there is specific provision for best management practices in lieu of numeric effluent limitations. Section 122.44(k) states that NPDES permits should include "...best management practices to control or abate the discharge of pollutants when: ...(2) Numeric effluent limitations are infeasible...." As we shall describe below, we conclude that numeric effluent limitations are infeasible as a means of reducing pollutants in municipal storm water discharges, at least at this time. EPA Guidance allows further monitoring in lieu of immediate permit limitations. In EPA's Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants, numeric limits are not required.⁷¹ Additionally, the Inland Plan provides up to ten years for storm water discharges to comply with numeric objectives and specifically endorses source reduction and best management practices to reduce pollutants.⁷²

Finally, EPA has formally approved the permit as an ICS. In its 304(1) Decision, EPA stated:

"EPA approves NPDES permit CA0029718 as the individual control strategy for the South San Francisco Bay Stormdrains. The permit requires attainment of water quality standards in South San Francisco Bay." (304(1) Decision, page 20.

This final agency action is entitled to great deference, as it is a determination by the administrative agency authorized to carry

⁷¹ EPA Office of Water, July 1987 (EPA 440/4-87-005), Section 3.1.

⁷² We note here that there is certainly a lack of adequate information in the record concerning the specifics of the storm water system and its impacts. We point out, however, that regardless of how Section 122.44 is interpreted, municipal storm water dischargers have three years to come into compliance with permit terms, and the Regional Board incorporated a broad reopener provision into the permit, allowing the inclusion of more stringent effluent limitations as required.

out the program, and which adopted the regulations which we are now attempting to interpret. Clearly, EPA found that the effluent limitations contained in the permit were adequate to protect water quality standards and to comply with 40 CFR Section 122.44.

As a final point, we take note of the broad authority the Regional Board possesses to regulate nonpoint sources which contribute to degradation of the South Bay. While the permit program under the Clean Water Act is limited to point sources, the Porter-Cologne Water Quality Control Act allows the Regional Board to regulate directly all discharges to state waters, including nonpoint sources and impacts from existing sediments. When this broad authority to ensure compliance with water quality standards is considered, it is clear that this permit, along with other actions the Regional Board will take (as contemplated in the 1986 Basin Plan) provides adequate protection of the impaired waters. We conclude that the permit does comply with the requirements of Section 304(1) of the Clean Water Act.

G. The Appropriateness and Propriety of the Permit

Our review of the permit does not end with the conclusion that the permit is legally defensible. Water Code Section 13320 provides that this Board must determine whether the Regional Board's action was appropriate and proper. Even though numeric effluent limitations are not legally required, we will consider whether numeric effluent limitations would result in more effective regulation of the dischargers' storm water

discharges. We note, of course, that the Regional Board clearly left open the possibility of including numeric effluent limitations at a later date. The critical question before us, then, is whether it is appropriate and proper for numeric effluent limitations to be applied at this time at each outfall to receiving waters.

In order to obtain a realistic chance of compliance with numeric effluent limitations, dischargers would have to install some kind of end-of-pipe treatment technology. However, few such technologies have been investigated or developed for discharges of storm water and urban runoff. Available treatment technologies are limited because storm waters involve high volume, intermittent flows from a large number of outfalls. Physical treatment works generally necessitate interception and transport of storm sewer flows to central locations and require extensive land area for gravitational settling basins. The pollutant removal efficiencies of wet- and dry-detention basins were briefly examined in a national study conducted by EPA. For metals (the runoff constituents of most concern here), these physical treatment works varied in effectiveness. In the best cases, wet-detention basins removed 90 percent of the lead but only about 50 percent of the copper and zinc found in influent runoff. Consequently, conventional end-of-pipe treatment technologies have limited effectiveness.

Treatment techniques such as wet-detention basins also require large land areas to contain high volume, variable storm

flows. These techniques therefore result in extremely high costs. The County of Sacramento has submitted evidence to us estimating that its capital costs to build conveyance and wet detention treatment facilities would exceed \$2 billion. Clearly, the potential costs for end-of-pipe treatment would be substantial, while the benefit to the receiving water would be difficult to predict accurately and reasonably. The impacts of holding large amounts of storm water for treatment may also pose potential adverse environmental impacts.

The inherent variability of storm water discharges also make numeric effluent limitations and end-of-pipe treatment impractical. The frequency, duration and magnitude of storm events and the constituents, concentrations, mechanisms, persistence and effects of runoff are poorly understood. As the current drought exemplifies, precipitation is highly variable temporally and spatially. The specific pollutants in runoff flows and their concentrations change dramatically from storm to storm and from location to location. The dischargers' monitoring investigation studies illustrate the variability of pollutants in the dischargers' runoff and possible receiving water effects. Similar regional and national studies of storm water and urban runoff discharges also reveal wide variability. The relative contribution and bioavailability of the potentially toxic trace metals in storm water remain uncertain. The mechanisms, nature, and potential threat of pollutant accumulation in sediments must be examined further.

The intermittent, irregular discharges of storm water also make it exceedingly difficult to formulate an appropriate numeric effluent limitation which would bear a reasonable relationship to established ambient water quality standards and criteria. The regulatory authority must minimally know the effluent flow rate (or the volume and duration), the receiving water flow and available dilution in order to establish numeric limitations. Without the necessary technical tools and a fundamental understanding of runoff variability, numeric effluent limitations cannot be legitimately developed or applied at this time.

In considering the anticipated effectiveness of the permit's best management practices approach, we consider that the discharges, while conveyed through point sources, are by nature more comparable to nonpoint sources. They derive from a vast variety of sources, including streets, residences, commercial areas, construction sites and industrial facilities. Source reduction and pollution prevention measures are, presently, the only practical means of controlling the truly nonpoint, diffuse waste flows from urban development. It is therefore apparent to us that a comprehensive and coordinated basin-wide approach, which stresses source reduction and elimination, will be most effective. This strategy focuses on the preventable causes rather than quantifying the tolerable effects of pollutants in runoff discharges.

At least at this preliminary point in the regulatory program for storm water discharges, it appears that an approach which implements "best management practices" to reduce sources and control pollutants is desirable. The Regional Board has taken this approach, but also has not foreclosed adding numeric, water quality-based effluent limits to the permit if it determines such limits are also necessary after receiving further monitoring data or after completion of a wasteload allocation for the South Bay.

We note also the probable impacts on the South Bay of mine drainage and resuspension of sediments. Just as we will rely on practices to reduce pollutants from storm water discharges, impacts from mine drainage and sediment resuspension must also be addressed if the South Bay is to achieve water quality standards and protection of beneficial uses. As we have stated, our interpretation of Section 304(1) of the Clean Water Act implies a coordination of activities intended to reduce impacts from all sources. The activities which the Regional Board has undertaken since 1986 are consistent with that approach. This is also the direction given this Board by the court in United States of America v. State Water Resources Control Board (1986) 182 Cal.App.3d 82, that we must assume a "global perspective" in water quality planning activities. In establishing objectives, we must consider all available remedial activities, and not just those which may be more readily regulated, such as point sources.

In summary, given the lack of clear evidence linking discharges of storm water in the Santa Clara Valley drainage courses to actual impacts in the South Bay, the difficulty of establishing numeric effluent limitations which have a rational basis, the lack of technology available to treat storm water discharges at the end of the pipe, the huge expenses such treatment would entail, and the level of pollutant reduction which we anticipate from the Regional Board's regulatory program, we conclude that the permit is proper and appropriate.

H. Transportation Control Measures

The petitioners contend that the permit must include specified transportation system control measures, or alternatively must name state and federal transportation entities as co-permittees, in order to regulate effectively runoff from streets, roads and highways. In support of these arguments, the petitioners contend that automobiles are the largest source of toxic pollutants in urban runoff and storm water discharges to the surface waters of the Santa Clara Valley. The specific control measures sought include extending regional transit systems, establishing inter-regional rail service, limiting further highway expansion, and enactment of "balanced growth" ordinances.

While runoff from highways and other transportation facilities undoubtedly contributes pollutants to the dischargers' municipal separate storm sewer system, for a number of reasons we decline to comply with the petitioners' requests.

First, while the permit was issued prior to promulgation of EPA's storm water regulations, the Regional Board proceeded in a manner consistent with those regulations in issuing the permit to municipalities with control over the municipal separate sewer system. Permits for municipal systems are to name only those municipal entities. Industrial discharges (and other discharges which contain other than storm water) are to be regulated both through the permits issued to the municipalities and through separate permits issued to industrial facilities.⁷³ Thus, it was not improper for the Regional Board to fail to name transportation authorities as dischargers.

Regarding the specified transportation measures requested by the petitioners, we find that the Regional Board's approach of requiring the municipalities to prepare a plan with proposed control measures for approval by the Regional Board preferable to specifying all such measures in the permit.⁷⁴ The permit does specifically require the dischargers to implement control measures focussing on transportation-related runoff.⁷⁵

⁷³ In Finding 5, the permit states the Regional Board's intent to issue separate NPDES permits to state or federal agencies including the California Department of Transportation.

⁷⁴ We note that this approach is consistent with EPA's regulations, even though the procedure differs. The regulations require submission of a plan containing control measures as part of the application process. The final permit envisioned in the permit will presumably contain the specified control measures. In contrast, the instant permit was issued long before permits will be issued to large municipal dischargers under EPA's regulations, but development of the control program is a part of the permit's provisions. The result in both cases will be that a mandatory control program will be developed after review of the municipality's proposal. The final program will be developed at an earlier date under the instant permit than under EPA's regulations.

⁷⁵ See Provision C.9. of the permit.

I. Time Schedule for Compliance

The petitioners contend that the permit violates the Clean Water Act by not requiring timely compliance with water quality standards. Both Clean Water Act Sections 304(1) and 402(p) require compliance with permit conditions within three years of issuance of the permit. We find that the permit contains provisions requiring such compliance.

Clean Water Act Section 304(1)(1)(D) provides that an ICS must "produce a reduction in the discharges of toxic pollutants from point sources identified," in order "to achieve the applicable water quality standard as soon as possible, but not later than 3 years after the date of the establishment of such strategy." EPA has interpreted this provision to mean "that Congress recognized that permittees will need a reasonable amount of time, not to exceed three years, to comply with new effluent limits that are necessary to achieve new water quality standards, or re-interpretations of existing water quality standards."⁷⁶

Similarly, Clean Water Act Section 402(p)(4) requires compliance with all permit conditions by large and medium municipal storm water dischargers no later than three years from the date of issuance. EPA has interpreted this provision similarly to its interpretation of Section 304(1)(1)(D), as applying to all permit conditions, including the requirement of water quality-based effluent limitations.⁷⁷

⁷⁶ 54 *Federal Register* 23889 (June 2, 1989).

⁷⁷ *General Counsel Memorandum*.

In reviewing the permit, we find that its provisions do require compliance with water quality standards and that all practices necessary to achieve such compliance must be in place within three years of adoption of the permit. Therefore, the permit complies with the time schedule requirements of the Clean Water Act. We note further that the permit specifically provides that it may be reopened for the inclusion of more stringent effluent limitations, including numeric effluent limitations if necessary. If it appears within the three-year period after issuance that new permit limitations are required, the Regional Board may proceed under the reopener provisions.⁷⁸

III. CONCLUSIONS

After review of the record and consideration of the contentions of the petitioners, and for the reasons discussed above, we conclude:

1. Impacts of storm water discharges on South San Francisco Bay are complicated and, at this time, it would be infeasible to establish numeric effluent limitations on discharges to storm drains in the Santa Clara Valley which are validly associated with impacts on the South Bay.

2. Pollutants associated with these storm water discharges alone do not substantially impair or threaten the beneficial uses of South San Francisco Bay.

3. The permit adopted by the Regional Board requires implementation of specific source control measures and contains

⁷⁸ See Permit, Finding 17 and Provision 12.

general prohibitions against discharge of non-storm water and violation of water quality standards.

4. The provisions in the Clean Water Act regulating municipal storm water discharges require effluent limitations and achievement of water quality standards, but the limitations may consist of source control measures, rather than numeric effluent limitations.

5. The provisions in the Clean Water Act concerning impaired water bodies also allow the inclusion of source control measures rather than numeric effluent limitations in permits for point sources.

6. It is appropriate and proper to issue a permit regulating municipal separate storm sewer systems which requires specific practices, rather than containing numeric effluent limitations.

7. The specific transportation control measures requested by petitioners should be considered by the Regional Board when approval of the dischargers' control plan is sought, rather than by this Board.

8. The permit complies with the time schedule requirements of the Clean Water Act.

IV. ORDER

IT IS ORDERED that the petition is denied.

CERTIFICATION

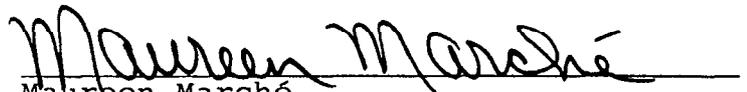
The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 16, 1991.

AYE: W. Don Maughan
Edwin H. Finster
Eliseo M. Samaniego
John Caffrey

NO: None

ABSENT: None

ABSTAIN: None


Maureen Marché
Administrative Assistant to the Board